



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-1

Issued: 11 Nov 2021 / 0700L (1200Z)

Valid: 12 Nov 2021 / 0701 - 0801L (12/1201 - 1301Z)



Forecast Discussion: High pressure centered over the Western Atlantic will establish southeasterly flow throughout the day, bringing tropical moisture and a better chance for showers in the vicinity of the Spaceport this afternoon and late evening. The next storm system moving across the northern tier of the US brings another cold front, which has started making its way through the eastern half of the US. Abundant moisture and vertical forcing along a pre-frontal boundary moving through the area on Friday morning will spur the development of thick low-level cloud layers and scattered showers, with Thick Clouds and Disturbed Weather as the main launch concerns for the primary launch window.

Northwesterly winds will bring drier air to the Spaceport Saturday morning, reducing cloud coverage and precipitation chances through the backup launch window until the front reaches the area later Saturday afternoon. High pressure is expected to build in the wake of the front, bringing cooler and drier air through the rest of the weekend. The main concern for the 24-hour backup launch window remains Thick Clouds due to lingering low-level moisture.

Launch Day	Probability of Violating Weather Constraints					
	40%	Primary Concerns: Thick Cloud Layers Rule, Disturbed Weather Rule				
	Weather Conditions					Additional Risk Criteria
	Weather:	Scattered Showers	Clouds			Upper-Level Wind Shear: Low
	Visibility:	7 miles	Type	Coverage	Base (ft)	Tops (ft)
24-Hour Delay	Temp/Humidity:	70°F / 94%	Stratus	Scattered	1,500	4,000
	Liftoff Winds (200'):	300° 5-10 mph	Stratocumulus	Broken	7,000	12,000
			Cirrus	Overcast	25,000	33,000
						Booster Recovery Weather: Low
						Solar Activity: Low
Probability of Violating Weather Constraints						
24-Hour Delay	20%	Primary Concerns: Thick Cloud Layers Rule				
	Weather Conditions					Additional Risk Criteria
	Weather:	Isolated Showers	Clouds			Upper-Level Wind Shear: Low
	Visibility:	7 miles	Type	Coverage	Base (ft)	Tops (ft)
	Temp/Humidity:	68°F / 90%	Stratocumulus	Scattered	1,000	3,000
24-Hour Delay	Liftoff Winds (200'):	320° 10 - 15 mph	Cirrus	Broken	26,000	30,000
						Booster Recovery Weather: Low
						Solar Activity: Low
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.						
Next Forecast Will Be Issued		As Needed				